PENTACON

PRAKTICA LLC

Zwischenringe

INTERMEDIATE RINGS
TUBES-ALLONGES
ANILLOS INTERMEDIOS

BEDIENUNGSANLEITUNG
INSTRUCTIONS FOR USE
MODE D'EMPLOI
INSTRUCCIONES PARA EL USO

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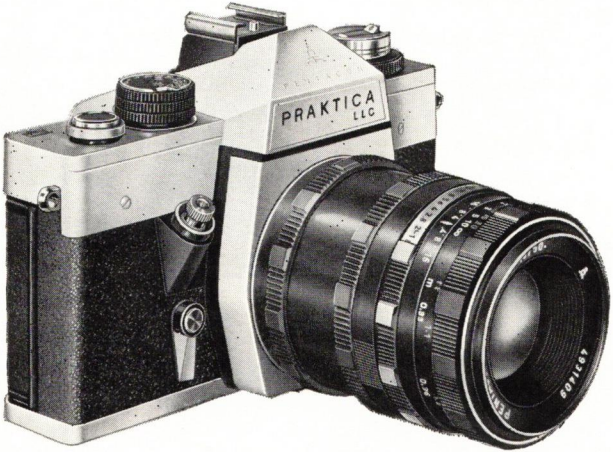

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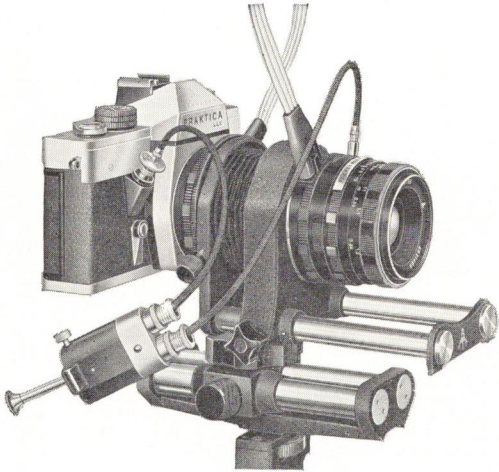

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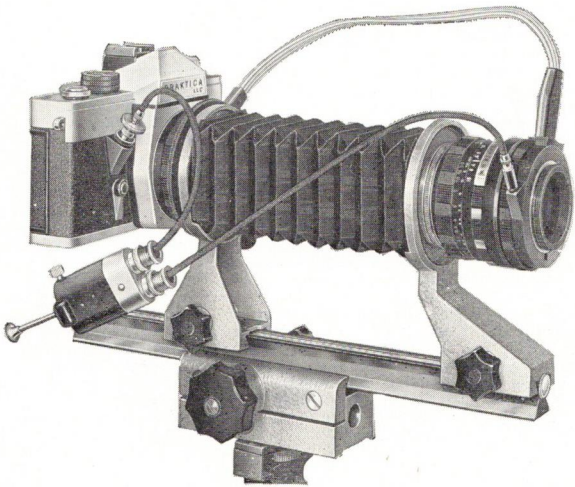

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The new, genuine single-lens reflex camera PRAKTICA LLC with its novel combination of electrical, mechanical, and optical elements simplifies extremely the full utilization of the interesting and fascinating field of close-ups. As you have got accustomed with standard shootings, the single view-finder and measuring system of this type of camera offers to check the picture section, distinctness and depth of field as well as to utilize the TTL-measuring system at maximum brightness of the finder image. The lenses are exchangeable, and this enables you to easily extend the tube by 'introducing' intermediate rings. As you know, such an extension will be necessary as soon as you will approach the object nearer than the helical thread of your lens allows. Perhaps you remember of the double or triple extension of the old plate-type camera. By means of the intermediate rings (or the close-up bellows attachment) you will obtain the same effect. In this way the representation of small and smallest objects or details of them up to their original size or even in an enlarged scale will be possible. Of special importance for close-ups are the contacts for electrical transmission of diaphragm values comprised in the intermediate rings. Furthermore, you surely will be pleased if the measuring process will not darken additionally the image. For the first time, this favourable effect, even in the case of extreme close-ups, is made possible by means of these intermediate rings and the close-up bellows attachment, resp., as well as the PRAKTICA LLC. In order to guarentee the exact diaphragm-value transmission and diaphragm operation, only a set of intermediate rings is used, and more enlarged image scales will be obtained by the close-up bellows attachment. "Image distance" means the distance between image plane and lens whereas "subject distance" means that between lens and object. The tables of these Instructions for Use specify the image scale (1:') with the use of one intermediate ring or of certain combinations of them. As in case of an enlarged image distance (i.e. with the use of intermediate rings or close-up bellows attachments) the brightness of the image will decrease, the exposure time in comparison with normal taking must be longer. Therefore, these lists give the factors (v) valid for various cases. The TTL-measuring system of the PRAKTICA LLC will save you this computation because the increase of the exposure time necessary in case of extending accessories is automatically taken into account by the TTL metering system.

Intermediate rings with plunger for electrical transmission of the diaphragm-value

Order No.: 208.400 Tube extension: 12.5 mm and 25.0 mm

In their interior, these intermediate rings have a transmitting plunger which connects the camera and the diaphragm plunger of the lens. Furthermore, these rings have contacts or the electrical transmission of the diaphragm-value (TTL-metering with full aperture).
The image sharpness and the image section are set, the depth of field is judged as well as the TTL-metering system is checked as usual in the prism viewfinder. For focusing, the camera is approached to the object until the best sharpness is obtained. If you use a tripod we recommend the focusing slide (208.201). Also in this case the exposure time is measured as without any extension means. The increase of the exposure time (v) is automatically taken into account with the PRAKTICA LLC because the TTL-metering system compensates for all exposure factors.
The intermediate rings can also be used in connection with supplementary lenses provided the latter have an electrical diaphragm-value transmission. In case of lenses which have not such means TTL-metering will be possible only at the aperture chosen for taking (pl. c.p. PENTACON PRAKTICA LLC).
For tables regarding the image scale, etc. see pages 11 and 12.

Pair of intermediate rings with cable and cable release connection

Order No.: 208.404 Tube extension: 12.5 mm and 12.5 mm

If the automatic diaphragm control of the lenses with internal release as well as the electric transmission of the diaphragm values shall be maintained in connection with the miniature close-up bellows-attachment (722.100) or the large close-up bellows-attachment (bellows attachment 715.532 and slide rail 715.521), a pair of intermediate rings with cable release connection must be inserted between the lens and the relevant close-up bellows attachment as well as between the camera and the close-up bellows attachment. The additional extension of twice 12.5 mm must be taken into consideration in such a case. For a close-up having an image scale exceeding 1.5 we recommend to turn the rear lens of the objective towards the object. The intermediate ring is left on the lens, and the reversing ring (208.580) must be screwed into the filter thread of the lens. Here, only an extension of once 12.5 mm is effective. Before screwing-in or off, the cable connection must be loosened from the front ring. The automatic diaphragm control is released at the correct time by a double cable release. For convenient operation of the release for metering (initial stroke = exposure metering) the button delivered with the pair of intermediate rings must be screwed between the cable release nipple and the oblique shutter release of the camera.
When the lens is used in such a manner, focusing via the helical thread of the lens will not be possible. When using a tripod – the object is focused by the slide rail (208.201) provided at the miniature close-up bellows attachment (722.100) or by the slide rail (715.521) of the large close-up bellows attachment. When reversing the lens, usually an additional extension is obtained which is not listed in our tables.

Double cable release (210.050)

Before the double cable release is used for the first time, adjust it once in connection with the concerning lens of the camera by pressing down slowly the release button of the double cable release which effects first the closing of the diaphragm and subsequently immediate operation of the shutter.
At first loosen both the counter nuts, then unscrew or screw in the thread bushings. The diaphragm is released the sooner the deeper the bushing is screwed in. After the adjustment has been terminated, both the counter nuts are re-thightened while arresting the thread bushings.
For exposure times exceeding 1 s (B) the double cable release can be locked in its screwed-in condition by tightening the knurled screw. Only when this screw has been loosened, the shutter closes again. The metal cap in which the thread bushings with the release are housed can be pulled off from the double cable release when the little buttons are pressed down simultaneously In this way, the cable releases may be exchanged if necessary.

Formulas important for close-up work:

Subject distance	$a = \frac{a' \cdot f}{a' - f} = \left(\frac{1}{\beta'} + 1\right) \cdot f = \frac{a' \cdot f}{z'}$
Image distance	$a' = \frac{a \cdot f}{a - f} = (\beta' + 1) \cdot f = \frac{a \cdot z'}{f}$
Image scale	$\beta' = \frac{y'}{y} = \frac{a' - f}{f} = \frac{z'}{f}$
Extension	$z' = \beta' \cdot f = \frac{y' \cdot f}{y}$
Image size	$y' = \frac{y \cdot z'}{f}$
Subject size	$y = \frac{y' \cdot f}{z'}$
Exposure factor (normal position of lens)	$v = \left(\frac{a'}{f}\right)^2 = \left(\beta' + 1\right)^2 = \left(\frac{\beta'}{\beta'_B} + 1\right)^2$
Exposure factor (reversely applied lenses)	$v = \left(\frac{1}{\beta'_B} + \beta'\right)^2$

β'_B = Pupil magnification of the lens

$\beta'_B = \frac{\text{dia of emerging pupil}}{\text{dia of incident pupil}}$

β'_B = for Domiplan 2.8/50 and PENTACON auto 1.8/50 = 1

β'_B = for PENTACON auto 2.8/29 = 1.90

β'_B = for PENTACON auto 2.8/100 = 0.65

β'_B = for PENTACON auto 2.8/135 = 0.65

β'_B = for Sonnar 4/135 = 0.53

When applying the TTL prism attachment (measuring through the lens) the exposure factor v is taken into account automatically.

For lenses, focal length 50 mm						
Extension	Subject distance	Image distance	Total distance	Image scale	Represented size of subject	Exposure factor
mm	mm	mm	mm	(β')	mm x mm	(v)
0	∞	50	∞	diff.	variable	1,0
5	550	55	605	0,1	240 x 360	1,2
10	300	60	360	0,2	120 x 180	1,4
12,5	258	63	321	0,25	100 x 150	1,5
15	217	65	282	0,3	80 x 120	1,7
20	175	70	245	0,4	60 x 90	2,0
25	150	75	225	0,5	48 x 72	2,3
30	133	80	213	0,6	40 x 60	2,6
35	121	85	206	0,7	34 x 51	2,9
37,5	117	88	205	0,75	32 x 48	3,0
40	113	90	203	0,8	30 x 45	3,2
45	106	95	201	0,9	27 x 40	3,6
50	100	100	200	1,0	24 x 36	4,0
60	92	110	202	1,2	20 x 30	4,8
70	86	120	206	1,4	17 x 26	5,8
80	81	130	211	1,6	15 x 23	6,8
90	78	140	218	1,8	13 x 20	7,8
100	75	150	225	2,0	12 x 18	9,0
110	73	160	233	2,2	11 x 16	10,2
120	71	170	241	2,4	10 x 15	11,6
130	69	180	249	2,6	9 x 14	13,0
140	68	190	258	2,8	9 x 13	14,4
150	67	200	267	3,0	8 x 12	16,0
160	66	210	276	3,2	8 x 11	17,6
170	65	220	285	3,4	8 x 11	19,4
180	64	230	294	3,6	7 x 10	21,2
190	63	240	303	3,8	6 x 9	23,0
200	63	250	313	4,0	6 x 9	25,0
220	61	270	331	4,4	5 x 8	29,0

For lenses, focal length 100 mm							For lenses, focal length 135 mm								
Extension	Subject distance	Image distance	Total distance	Image scale	Represented size of subject	Exposure factor	Exposure factor for 2.8/100 *)	Subject distance	Image distance	Total distance	Image scale	Represented size of subject	Exposure factor	Exposure factor for S 4/135 aus Jena *)	Exposure factor for Meyer 2.8/135 *)
mm	mm	mm	mm	(β')	mm x mm	(v)	(v)	mm	mm	mm	(β')	mm x mm	(v)	(v)	(v)
0	∞	100	∞	diff.	variable	1,0	1,0	∞	135	∞	diff.	variable	1,0	1,0	1,0
5	2100	105	2205	0,05	480 x 720	1,1	1,2	3780	140	3920	0,04	600 x 900	1,1	1,2	1,1
10	1100	110	1210	0,10	240 x 360	1,2	1,3	1958	145	2103	0,07	343 x 514	1,2	1,3	1,2
12,5	933	113	1046	0,13	200 x 300	1,25	1,4	1654	148	1807	0,09	281 x 421	1,2	1,4	1,3
15	767	115	882	0,15	160 x 240	1,3	1,5	1350	150	1500	0,11	218 x 327	1,2	1,5	1,4
20	600	120	720	0,20	120 x 180	1,4	1,7	1046	155	1201	0,15	160 x 240	1,3	1,6	1,5
25	500	125	625	0,25	96 x 144	1,6	1,9	864	160	1024	0,19	126 x 189	1,4	1,8	1,7
30	433	130	563	0,30	80 x 120	1,7	2,1	742	165	908	0,22	109 x 164	1,5	2,0	1,8
35	386	135	521	0,35	69 x 103	1,8	2,3	656	170	826	0,26	92 x 138	1,6	2,2	2,0
35,7	368	138	506	0,38	64 x 96	1,9	2,5	623	173	796	0,28	86 x 129	1,7	2,4	2,1
40	350	140	490	0,40	60 x 90	2,0	2,6	591	175	766	0,30	80 x 120	1,7	2,5	2,1
45	322	145	467	0,45	53 x 80	2,1	2,9	540	180	720	0,33	73 x 109	1,8	2,6	2,3
50	300	150	450	0,50	48 x 72	2,3	3,1	500	185	685	0,37	65 x 97	1,9	2,9	2,5
60	267	160	427	0,60	40 x 60	2,6	3,7	439	195	634	0,44	55 x 82	2,1	3,3	2,8
70	243	170	413	0,70	34 x 51	2,9	4,4	395	205	600	0,52	46 x 49	2,3	4,0	3,2
80	225	180	405	0,80	30 x 45	3,2	4,8	363	215	578	0,59	41 x 61	2,5	4,5	3,6
90	211	190	401	0,90	27 x 40	3,6	5,7	338	225	563	0,67	36 x 54	2,8	5,1	4,1
100	200	200	400	1,00	24 x 36	4,0	6,5	317	235	552	0,74	32 x 49	3,0	5,8	4,6
110	191	210	401	1,10	22 x 33	4,4	7,3	301	245	546	0,82	29 x 44	3,3	6,5	5,1
120	183	220	403	1,20	20 x 30	4,8	8,1	287	255	542	0,89	27 x 40	3,6	7,2	5,6
130	177	230	407	1,30	18 x 27	5,3	9,0	275	265	540	0,96	25 x 38	3,9	7,9	6,1
140	171	240	411	1,40	17 x 26	5,8	9,9	265	275	540	1,04	23 x 35	4,2	8,8	6,8
150	167	250	417	1,50	16 x 24	6,3	10,9	257	285	542	1,11	21 x 32	4,5	9,5	7,3
160	163	260	423	1,60	15 x 23	6,8	12,0	249	295	544	1,18	20 x 30	4,8	10,4	7,9
170	159	270	429	1,70	14 x 21	7,3	13,0	242	305	547	1,26	19 x 29	5,1	11,4	8,6
180	156	280	436	1,80	13 x 20	7,8	14,2	236	315	551	1,33	18 x 27	5,4	12,3	9,3
190	153	290	443	1,90	13 x 19	8,4	15,4	231	325	556	1,41	17 x 26	5,8	13,4	10,0
200	150	300	450	2,00	12 x 18	9,0	16,7	226	335	561	1,48	16 x 25	6,2	14,4	10,7
220	145	320	465	2,20	11 x 16	10,2	19,2	218	355	573	1,63	15 x 22	6,9	16,4	12,3

*) The exposure factors differing from normal are due to the construction of the lens

Wir bitten, alle Hinweise dieser Anleitung zu beachten. Unsachgemäße Behandlung des Zubehörs kann zu Schäden führen, deren Behebung außerhalb unserer Garantieleistung liegt.

Kombinat
VEB PENTACON DRESDEN
Deutsche Demokratische Republik

Durch Weiterentwicklung des Zubehörs können sich geringfügige Abweichungen von dieser Druckschrift ergeben.

Please kindly take care of these Instructions. Objectionable use of the accessories may cause damages the remedy of which will not be within our guarantee.

Kombinat
VEB PENTACON DRESDEN
German Democratic Republic

Further development of the accessories may lead to slight differences from the details given in this leaflet.

PENTACON

PRAKTICA LLC

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ANILLOS INTERMEDIOS

Kombinat
VEB PENTACON DRESDEN
DEUTSCHE DEMOKRATISCHE REPUBLIK

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